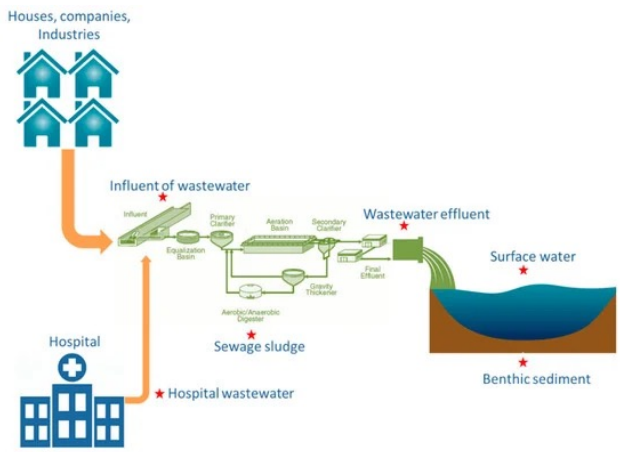
The AutoSampler

for Wastewater-based Epidemiology

Empowering Action for Environmental Protection and Public Health

Wastewater-based epidemiology is a valuable tool that can help us identify the occurrence, spread, or resurgence of a disease, and drug use in a population. It provides an efficient surveillance tool to estimate the community prevalence of pathogens, such as SARS-Cov-2, and illicit drug consumption, which can inform and improve public health response efforts.

By analyzing community-wide samples, we can detect and quantify a huge range of chemical and biohealth markers to determine the exact hotspot areas of virulence and take appropriate measures to prevent the outbreak and curb the spread of infectious diseases and drug abuse, to promote a healthier and safer community.



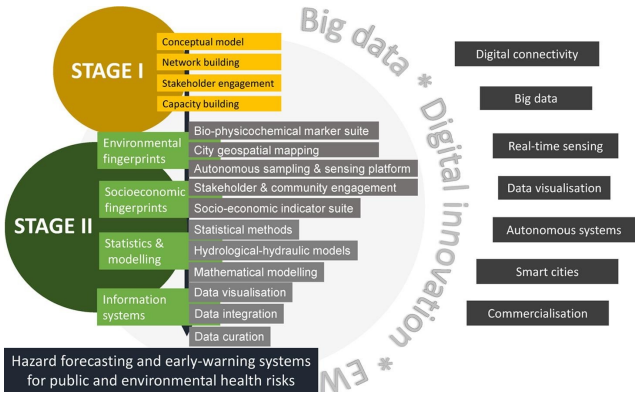
Source: ARUP, MPDI Antibiotics

Reliable and Accurate Sampling at all depths

Our Autosampler is capable of reliable and accurate sampling of wastewater-based epidemiology and monitoring, at different depths up to 30m below ground. Its robust and rugged design allows for versatile deployment in challenging environments, enabling efficient sampling for a wide range of water extraction and treatment processes to improve public health response efforts.

Real-time sampling to mitigate pandemic outbreaks and drug abuse

Real-time sampling can contribute rich insights into population and environmental health. By monitoring and collecting data at sewer point locations, including individual households, hospitals, buildings, communities and wastewater treatment plants, we can enable early warning and timely responses to public health emergencies.



Source: Wastewater-based epidemiology in hazard forecasting and early-warning systems for global health risks (2022), Environment International

Seamless Data Management with Real-Time Alerts

Our Autosamplers provide a powerful solution for wastewater-based epidemiology with its seamless data management and real-time alerts that deliver valuable insights for efficient pandemic monitoring and response measures. With our Autosampler, you can now monitor sampling jobs, environmental conditions, and system operations in real-time, and enjoy quick access to updated information on our secure cloud-based system. This allows timely intervention and remote optimization to achieve all your sampling needs with ease.

Technical Specifications

Portable Autosamplers for Deep Manholes	
Dosing System	• Operated by a peristaltic / vaccum pump (Up to 8m) • Operated by a pneumatic bladder pump (Up to 30m)
Multi-hole Strainer	• Customized stainless steel strainer • Fits with braided suction intake hose

Distribution System	• Programmable sampling:
	  • Single-shot sampling volume (Up to 350ml)
	  • Multiple / Composite sampling
	  • Group / Parallel sampling
	  • Time-based sampling (Uniform & Non-Uniform)
	  • Flow-based sampling
	  • Event-based sampling

Collection bottles	• Accommodate up to 24 multi-bottle configurations (PP, PE, HDPE) • Sample cooling with ice packs/dry ice or condenser
Multi-parameter Sensor	• Water level / Flow, Temperature, Humidity, Door sensors
Data Management	• QR Code for mobile devices with real-time access to online platform • Remote Terminal Unit (RTU) for wireless signal or cloud-based system • Data acquisition, transmission and download from cloud-based system • Data transfer to wireless device, laptop and PC
System Control	• Remote control via mobile apps and/or Chatbot • Easy to use LCD display for programming
Automatic Features	• Automatic flushing, sample collection and cleaning operations • Automatic real-time alerts and notifications
Housing	• Robust and versatile design for challenging environments • Mobility features (built-in wheels and extendable trolley handle)
Power Requirements	• Voltage invertor to supply continuous power up to 2500W • Two sets of 3800 WH battery and battery charger (for at least 1 cycle)

Optional Features	• Subscription for wireless signal or cloud-based system monitoring
	  • Email and SMS/WhatsApp notifications on water levels in manhole, sampling job status, GPS location for remote control
	  • Real-time monitoring of operating conditions, and remote optimisation of system functions
	  • API for real-time updates and access to data and log files

At Nm3 Tech, we aspire to become the leading provider of innovative and comprehensive environmental sensing and monitoring solutions that empower organisations and communities to safeguard our planet. With our expertise in IoT and big data analytics, we aim to provide advanced and reliable systems that covers water, air and soil quality monitoring, enabling our stakeholders to make informed decisions and take effective action towards environmental sustainability and responsible resource management for future generations.

For more information, please visit https://www.nm3.sg.

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Innovating Monitoring. Empowering Action.